

Guidelines on certain State aid measures in the context of the greenhouse gas emission allowance trading scheme post 2021

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(Spanish, Portuguese, Croatian Cement Associations)

Position to answer Public Consultation on Indirect Costs Compensation

1. Background

European Commission has prepared a Communication draft on Guidelines on certain State aid measures post 2021 including the point:

1.2.1. Aid to compensate for increases in electricity prices resulting from the inclusion of the costs of greenhouse gas emissions due to the EU ETS (commonly referred to as 'indirect emission costs')

This draft includes the definition of CO₂ emission factor in t CO₂/MWh in different geographic areas:

1.3 Definitions:

11. For the purposes of these Guidelines the following definitions will apply:

10. "CO₂ emission factor", in TCO₂/MWh, means the weighted average of the CO₂ intensity of electricity produced from fossil fuels in different geographic areas.

Such regional differentiation reflects the significance and the variation existing by the intensity of fossil fuel electrical production.

On this basis, the following geographic areas are identified in Annex III defining the maximum regional CO₂ emission factors in tCO₂/MWh:

ANNEX III

Maximum regional CO₂ emissions factors in different geographic areas
(tCO₂/MWh)

Zones		Applicable CO ₂ emission factor
Iberia	Spain, Portugal	[...]
Baltic	Lithuania, Latvia, Estonia	[...]
Nordic	Sweden, Finland	[...]
Czechia-Slovakia	Czechia, Slovakia	[...]
Belgium		[...]
Bulgaria		[...]
Denmark		[...]
Germany		[...]
Ireland		[...]
Greece		[...]
France		[...]
Croatia		[...]
Italy		[...]
Cyprus		[...]
Luxembourg		[...]
Hungary		[...]
Malta		[...]
Netherlands		[...]
Austria		[...]
Poland		[...]
Romania		[...]
Slovenia		[...]
United Kingdom		[...]

- Sectors deemed to be exposed to a genuine risk of carbon leakage due to indirect emission costs are included in Annex I:

	NACE Code	Sector	Trade Intensity	Indirect emissions intensity	TI (UE)*IEI(UE)>0,2 and IEI>1		RAG rating
1.	14.11	Manufacture of leather clothes	0.83	1.38	1,148	YES	Medium-high
2.	24.42	Aluminium production	0.35	3.01	1,060	YES	Medium-high
3.	20.13	Manufacture of other inorganic basis chemicals	0.54	1.36	0,734	YES	Medium-high
4.	24.43	Lead, zinc and tin production	0.31	2.03	0,620	YES	Medium-high
5.	17.11	Manufacture pulp	0.48	1.09	0,522	YES	Medium-high
6.	17.12	Manufacture of paper and paperboard	0.28	1.48	0,412	YES	Medium
7.	24.10	Manufacture of basic iron and steel and of ferro-alloys	0.26	1.41	0,363	YES	Medium
8.	19.20	Manufacture of refined petroleum products	0.26	1.03	0,266	YES	Medium

2. Cement sector eligibility

It is surprising to note a "medium-low" qualification, for the manufacture of cement, under the Red-Amber-Green (RAG) assessment carried out by the consultants. The following are core arguments for each of the criteria as the rating received does not correspond to EU cement sector assessment:

a) Market characteristic parameters

- the domestic output price index decreased faster than the non-domestic index over 2014-2016 which suggests strong price competition;
- prices evolve more slowly than costs because of the limited pricing power of the industry in the EU;
- pricing power is constrained both by competition from third countries and by the fact that cement only represents 20% of the construction sector purchases even though more than 70% of cement is destined to construction sector.

b) Profit margin

- the added value in the cement industry decreased by 7.8% per year between 2008 and 2016, faster than the turnover which led to a margin deterioration;
- gross operating rate decreased by 11 % between 2008 and 2012 and has remained at the same level since;
- many cement companies are still operating at a return on capital employed below the cost of capital;
- investments in the cement sector have halved since 2009, falling from EUR 2.1 bn (2009) to EUR 944 million (2016)

c) Electric energy demand of the cement process. Abatement potential

- efforts made to improve energy efficiency in the cement manufacturing process have already resulted in a very high energy efficiency of between 70% and 80%, depending on the moisture content of the raw materials;
- in the case of dry processing the total electrical power consumption can be apportioned as follows: about 2% for raw material extraction, 25% for raw material preparation, 25% for clinker production plus an additional 3% for fuel grinding, 43% for cement grinding

and 3% for packing and loading. These figures already include an average share of 5% for cross-sectoral technologies;

- the potential for a further decrease in electricity consumption through new techniques is limited given the unrealistically high cost of carbon required to reach break-even: by way of example, reference is made in CEMBUREAU's submission to a EUR 385/t CO₂ carbon price for a preheater modification leading to an electricity consumption decrease of 5 kWh/t clinker; in addition, the pay-back time of more than 5 years is longer than the one anticipated by the European Commission in its para. 54(a) of Draft Guidelines when referring to the energy audit;
- specific power consumption has increased in many countries in the past because environmental requirements have increased. Lower dust emission limit values require more power for dust separation, regardless of which technology is applied. The abatement of other components (like NO_x or SO₂) requires additional units which require electricity. The use of SCR technology for NO_x abatement for example results in an increase in electrical energy demand of 5 kWh/t cli;
- if CCS will be applied on an industrial scale, the power consumption of cement manufacturing will increase significantly. As described in the respective technology papers, oxyfuel as well as post-combustion technologies will require high power consumption for oxygen production in an air separation unit, the regeneration of absorbent agents, and the separation, purification and compression of CO₂. Therefore, CCS would increase power consumption by 50 to 120% on plant level. Assuming a CCS implementation degree of maximum 20 installations in 2030 or about 1% of clinker capacity and up to 20% in 2050, an additional power demand in cement production (as a global average) of plus 1 kWh or 101 kWh/t cement is expected in 2030 and 105 to 110 kWh/t cement in 2050 respectively. These estimated global averages could further increase by 5 to 15 kWh due to the demands of additional emission reduction units and increased product fineness.

d) Fuel and electricity substitution

- the cement industry is increasingly moving away from fossil fuels: today, 46% of the industry's fuel needs are covered by alternative fuels taken from a variety of waste streams; while the shift from fossil fuels is not (yet) a massive shift to electrification, the need for electricity increases with a stronger recourse to alternative fuels.

Conclusion: given that there is no ability for the cement sector to pass on costs, the prospects for investment are worsening, further abatement potential is limited and the industry is a price taker, the RAG analysis should have resulted in a higher ranking for the cement sector on the eligibility curve.

3. The European Green Deal

The European Green Deal recognizes that the cement industry is indispensable to Europe's economy, as it supplies several key value chains. As key construction materials for renewable energy equipment, sustainable buildings and mass transit transport, cement and concrete indeed offer the opportunity to accelerate the creation of a carbon-neutral Europe.

The “Masterplan for Energy-Intensive Industries (EIs)”¹, an outcome of work of the High-Level Group on Energy-intensive Industries, sets that the legal framework for products should bridge the current situation with the development of future markets without creating distortions or competitive disadvantages. During the transition, continued support for energy intensive industries (such as cement industry) should safeguard competitiveness and investments in Europe. This process requires a smart combination of offensive and defensive market creation strategies in order to maximize the benefits for EU’s economy and society.

4. Exposure to international competition difficulties as a result of imports from outside the EU

4.1. Cement Export Capacity around EU

The Draft Guidelines correctly state that there is a risk of carbon leakage "either because production is transferred from the Union to other countries with lower ambition for emission reduction, or because Union products are replaced by more carbon-intensive products". In this respect, it is worth mentioning that a capacity build-up of 70 million tons is forecasted in areas bordering the European Union over the 2018-2025 period. While capacity build-up does not equal exports to Europe, this development needs to be considered in combination with a change in business model witnessed in the industry whereby clinker manufacturing (the most CO₂ intensive part of cement manufacturing) is done in areas bordering the EU and brought to grinding installations in Europe where clinker is ground into cement which is then further transported across Europe.

Thus, for example, EU market is under increasing pressure from major cement producing countries of the Mediterranean basin and which are not subject to regulation on CO₂ emissions. Turkey has doubled its cement exports from 2016 to 2019 and Algeria has increased them exponentially:

	Development of Cement exports (Mt) ²			
	2016	2017	2018	2019 ³
Algeria	0	0	0.5	2.5
Turkey	11.4	12.9	13.8	22.1

These countries are ready to continue increasing their cement export. Investment increasing in cement plants new capacity has been developed in the last years, offering an over-capacity in all the Mediterranean area. This over-capacity represents approximately 50% of EU cement market. The gap between domestic consumption and cement capacity is shown in the following table:

	Cement capacity (Mt)	Domestic consumption (Mt)	Export capacity (Mt)
Algeria	38.4	25.16	13.24
Turkey	141.0	46.93	94.07

¹ “Masterplan for a Competitive Transformation of EU Energy-intensive Industries Enabling a Climate-neutral, Circular Economy by 2050”; report by the High-Level Group on Energy-intensive Industries, ISBN 978-92-76-11050-7

² The Global Cement Report. Edition XIII (2019); Tradeship Publications

³ Forecast of The Global Cement Report. Edition XIII

In parallel production facilities in the EU continue to be closed. According to the EU registry report “Verified emissions 2018”⁴, in 2013 there were 259 integral cement plants, since then 32 (13%) have closed and 12 (5%) have not been operating during 2018. That represents 18% less of cement plants, despite the fact that the European market has grown a 10% between 2013 and 2018⁵.

Country	Open			Closures from 2014 and beyond	Total
	Total	Operative in 2018	Non operative in 2018		
Luxembourg	1	1			1
Austria	9	8	1		9
Belgium	4	1	3		4
Bulgaria	3	0	3	1	4
Cyprus	1	1			1
Czechia	5	5			5
Germany	36	36		1	37
Denmark	1	1			1
Estonia	1	1			1
Spain	33	32	1	3	36
Finland	2	2			2
France	32	31	1	2	34
United Kingdom	12	12		2	14
Greece	6	6		2	8
Croatia	4	4			4
Hungary	3	3		2	5
Ireland	4	4			4
Italy	33	31	2	18	51
Lithuania	1	1			1
Latvia	2	2			2
Netherlands	1	1			1
Norway	2	2			2
Poland	9	9		1	10
Portugal	6	6			6
Romania	7	7			7
Sweden	3	3			3
Slovenia	2	1	1		2
Slovakia	4	4			4
Total	227	215	12	32	259

Cement installations in the EU registry report “Verified emissions 2018”

⁴ https://ec.europa.eu/clima/sites/clima/files/ets/registry/docs/verified_emissions_2018_en.xlsx

⁵ Source: The Global Cement Report™ - 13th Edition

Over that period, imports into the EU have seen a spectacular increase:

Country	Import			
	2014	2019	Variation	% variation
Turkey	1,074,436	1,988,669	914,232	85%
Ukraine	17,420	571,055	553,635	3,178%
Belarus	179,063	450,409	271,347	152%
Algeria	20,516	288,188	267,671	1,305%
Morocco	23	243,735	243,712	1,050,481%
Bosnia and herzegovina	95,866	241,553	145,687	152%
Tunisia	16,251	155,896	139,645	859%
Albania	32,040	168,267	136,227	425%
NORWAY (incl.SJ excl.1995,1996)	51,606	164,638	113,032	219%
Saudi Arabia	1	110,530	110,529	11,052,890%
United States	125,010	2,029	-122,981	-98%
Vietnam (excl. North -> 1976)	270,923	121,014	-149,909	-55%
Total	2,470,054	5,164,405	2,694,350	109%

The current situation is only explained by a decline in the level of competitiveness of the EU cement sector resulting from rising energy costs.

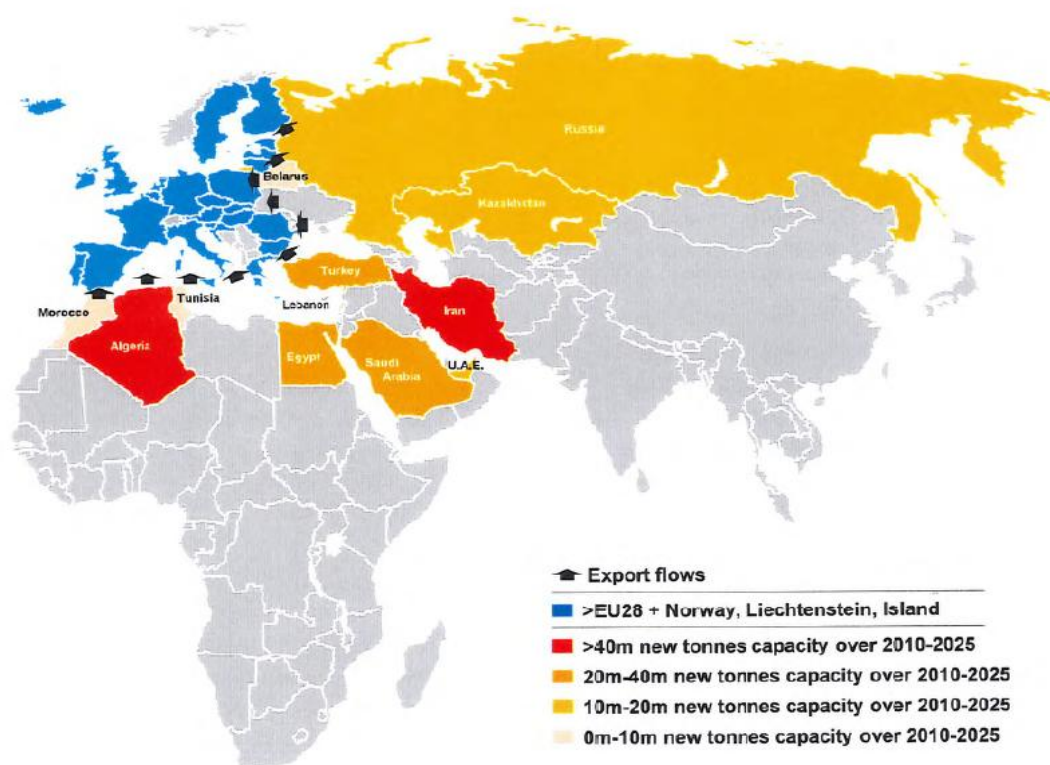
Most exposed countries in the EU to carbon leakage are those with more length of coast or located at borders of EU.

Cement production capacity should continue to rise in neighboring countries, increasing the threats of exports into EU 28:

Increase in production capacity in countries close to the EU28 is expected to reach a total of **c. 250m tons** over the 2010-2025 period.

Surplus capacity in those countries - **which can vary significantly** based on rapid changes in local demand due to political or economic turmoil – is likely **to rise** in the next years, which will lead to **increased exports into the EU28**.

Increase in cement production capacity 2010-2025



Source: Expert interviews, PwC Strategy& analysis

4.2. Decline in EU exports to the Mediterranean area

The decline in the level of competitiveness of the EU cement sector due to the rising energy costs, together with the increase in the cement production capacity in the non-EU Mediterranean area has led to 8.5 million tons of cement lost in the global marketplace of the EU cement companies.

	Export			
Country	2014	2019	Variation	
Algeria	4,816,408	49,754	-4,766,653	
Egypt	1,650,338	58,123	-1,592,215	
Libya	1,422,907	64,726	-1,358,182	
Israel (Gaza and Jericho->1994)	1,077,411	347,125	-730,286	
Total	8,967,064	519,728	-8,447,336	-94.2%

4.3. Cement Sector Trade Intensity at EU

At EU internal level trade intensity in the cement sector is concentrated in countries located in the Mediterranean area and/or countries with very specialized products.

During the period 2013-2016 exports plus imports in the cement sector were 1,333 million euros in average per year. Approximately 1,010 million euros per year corresponded basically to Mediterranean and Baltic areas, which means that 76% was located in 7 electrical regions corresponding to 10 countries. In particular 33% was in Iberia (Spain and Portugal) and 15% was in Greece, as is shown in the following table:

Electrical Area (million euros)	Volume of Imports + Exports with third countries in cement sector			
	2013-2015		2014-2016	
	Imp+Exp	%	Imp+Exp	%
EU28	4,072	100%	3,926	100%
Baltics	152	4%	92	2%
Croatia	282	7%	281	7%
Denmark	137	3%	156	4%
France	333	8%	319	8%
Greece	569	14%	574	15%
Iberia	1,332	33%	1,282	33%
Italy	290	7%	260	7%

5. Our proposals

5.1. Proposal to include medium (RAG rating) sectors, qualitative approach

A first option, taking into account the qualitative approach proposed by the Commission, would be to include those sectors and subsectors with a **medium risk** (RAG rating), according to the Commission Report, and meet any of the following two criteria, or the intensity trade is =0.2; or indirect emissions intensity is > 1

NACE Code	Sector	Trade Intensity	Indirect emissions intensity	or TI (UE)*IEI(UE)>0,2 or IEI>1	RAG rating
24.44	Copper production	0,35	0,71	0,251 YES	Medium
20.60	Manufacture of man-made fibres	0,44	0,64	0,281 YES	Low- medium
20.16	Manufacture of plastics in primary forms	0,36	0,69	0,247 YES	Medium
08.99	Other mining and quarrying n.e.c.	1,73	0,25	0,438 YES	Low- medium
20.11	Manufacture of industrial gases	0,06	15,09	0,905 YES	Low- medium
23.51	Manufacture of cement	0,10	1,33	0,134 YES	Low- medium

On the basis of these criteria, with these new 6 sectors, the total number should be 14, including the cement sector, that could be included in the list of eligible sectors for indirect cost compensation.

5.2. Proposal to include sectors that meet and go beyond a higher criterion of carbon leakage

There are precedents for applying exceptions by countries in the ETS Directive itself, which is referred to in the Communication draft on Guidelines on certain State aid measures post 2021:

1.2.2. Aid involved in the optional transitional free allocation for the modernization of the energy sector

Under Article 10c of the ETS Directive, Member States fulfilling certain conditions relating to the level of GDP per capita in comparison to the Union average, may derogate from the principle set out in the second subparagraph of Article 10a(1) of Directive 2003/87/EC that no free allocation is to be made in respect of any electricity production. Those Member States may give a transitional free allocation to installations for electricity generation for the modernization, diversification and sustainable transformation of the energy sector.

Articles 10.c and 10.d of the ETS Directive set out:

Article 10c “Option for transitional free allocation for the modernization of the energy sector”

- 1. By way of derogation from Article 10a(1) to (5), Member States which had in 2013 a GDP per capita at market prices (in euros) below 60 % of the Union average may give a transitional free allocation to installations for electricity generation for the modernization, diversification and sustainable transformation of the energy sector. The investments supported shall be consistent with the transition to a safe and sustainable low-carbon economy, the objectives of the Union's 2030 climate and energy policy framework, and reaching the long-term objectives expressed in the Paris Agreement. The derogation provided for in this paragraph shall end on 31 December 2030.*

Article 10d Modernization Fund

- 1. A fund to support investments proposed by the beneficiary Member States, including the financing of small-scale investment projects, to modernize energy systems and improve energy efficiency, in Member States with a GDP per capita at market prices below 60 % of the Union average in 2013 (the ‘Modernization Fund’), shall be established for the period from 2021 to 2030. The Modernization Fund shall be financed through the auctioning of allowances as set out in Article 10.*

Due to its historical generation characteristics, the electricity market is not uniform.

The markets for basic industrial products may also have heterogeneities due to their geographical location, access to maritime transport, the situation close to the borders of the EU or its manufacturing capabilities for specific products of greater international demand.

These two characteristics create unfair or unequal treatments in some of the geographic areas defined by the Commission

In addition, taking into account the regional specificity established in the guidelines and in line with the support that the Commission promulgates to the regions affected by the transition of its economic sectors, it is proposed to include those sectors that (for example, for Spain, Portugal or Croatia) meet and go beyond a higher criterion of carbon leakage. That is, the indicator is greater than 0.25 (compared to 0.2 established).

NACE Code		Sector		
23.51		Manufacture of cement		
Annex III Geographic areas	Indirect emissions intensity (IEI)	Trade intensity (TI)	TI (UE)*IEI(UE)>0,25	
Iberia (Spain, Portugal)	1.33	0.27	0.36	YES
Baltic (Lithuania, Latvia, Estonia)	1.33	0.49	0.65	YES
Nordic (Sweden, Finland)	1.33	0.37	0.49	YES
Czechia-Slovakia	1.33	0.00	0.01	
Belgium	1.33	0.05	0.06	
Bulgaria	1.33	0.23	0.30	YES
Denmark	1.33	0.21	0.28	YES
Germany	1.33	0.04	0.06	
Ireland	1.33	0.00	0.00	
Greece	1.33	0.53	0.71	YES
France	1.33	0.05	0.07	
Croatia	1.33	0,57	0.76	YES
Italy	1.33	0.07	0.09	
Cyprus	1.33	125.61	167.07	YES
Luxembourg	1.33	97.80	130.08	YES
Hungary	1.33	0.32	0.43	YES
Malta	1.33	1.01	1.35	YES
Netherlands	1.33	4.07	5.41	YES
Austria	1.33	0.06	0.07	
Poland	1.33	0.02	0.02	
Romania	1.33	0.02	0.03	
Slovenia	1.33	91.23	121.33	YES
United Kingdom	1.33	0.02	0.03	

That means that cement sector in 17 Member States comply these criteria, representing a 30.8 % of the EU population and a 25.9 % of the EU cement market.

10th March 2020